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EXAMINER

CHENCINSKI, SIEGFRIED E

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/858,251
Filing Date: May 15, 2001
Appellant(s): GULER ET AL.

Dan C. Hu
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed February 8, 2008 appealing from the Office action mailed August, 10, 2006.

(1) Real Party in Interest

Hewlett-Packard Development Company, L.P.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,101,353	LUPIEN ET AL.	3-1992
6,792,399 B1	PHILLIPS ET AL.	9-2004
6,285,989 B1	SHOHAM	9-2001
6,868,525 B1	SZABO	3-2005
6,897,190 B1	SEYMOUR ET AL.	3-2005

Bajari, Patrick and Hortascu, Ali, "Auction Models when Bidders Make Small Mistakes: Consequences for Theory and Estimation", Stanford University and University of Chicago, August 15, 2001.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 10 & 11 are rejected under 35 U.S.C. 103(a) as being disclosed by Lupien et al. (US 5,101,353, hereafter Lupien) in view of Phillips et al. (US 6,792,399 B1, hereafter Phillips).

Re. Claims 1 & 10, Lupien discloses a computer-implemented method and system for providing an automated auction analysis with the objective of seeking incremental profits from participation in auction markets (Abstract – ll. 1-2, 16-18, 23-25; Claim 12, l. 3), comprising:

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- estimating unknown elements of market structure of the auction based on auction characteristics data extracted from historical auctions for similar items and a bidding model matching the extracted auction characteristics data (Abstract-II. 16-18; Col. 3, ll. 19-22; Col. 9, ll. 61-67. Lupien reads on estimating unknown elements of market structure, in this case securities market structure for specific securities and groups of securities based on the auction characteristics data extracted from the historical stock market data. As in any auction, a price is established in a stock market by competitive bidding between brokers acting as agents for buyers and sellers. Trading rules maintain order in the auction of a particular stock. Analysis using an almost infinite number of models of the trader's or investor's choosing is enhanced, at least in part, by historical trading data from a given exchange. The historical stock market data is based on historical stock market auction data of the same and similar securities. The underlying bidding model used in the analysis is implicit in Lupien since there would be no basis for making any assumptions without a model. This implicit model produces the estimates of market structure based on the assumptions made in applying the model. It would be highly improbable bordering on irrationality to perform an auction analysis without making any assumptions.);
- predicting bidding behaviors of bidders in the auction based on the estimated unknown elements of market structure and characteristics of the auction (Col. 3, ll. 19-22, 28-37. Lupien obviously reads on the prediction of future bidding behavior of bidders in the auction using the above estimated unknown elements of market structure and characteristics of the auction, since prediction of bidding behavior in a market environment requires the use of assumptions and estimates of unknown variables of a future event such as an auction);
- employing an evaluation criterion to generate an evaluation of the auction based on (1) the estimated unknown elements of market structure and (2) the predicted bidding behavior of bidders (Col. 4, ll. 61-65. Lupien teaches that actions (to buy and sell through the bidding system in the auction based stock

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market) are taken after making appropriate decisions based on the evaluation process he labels as an analysis of transactions (in the market)).

Thus, it would have been obvious to an ordinary practitioner of the art at the time of Applicant's invention to use the bidding model(s) and the predicting of bidding behaviors which underlie Lupien's teaching. Lupien does not explicitly teach a bidding model and the explicit predicting of bidding behaviors, although the predicting of bidding behaviors obviously underlies the process leading to action decisions for participating in the auction process involved in securities markets, since it would be highly improbable bordering on being irrational to perform an auction analysis without making any assumptions and without implicitly if not explicitly using some kind of model in the process. Further, models, however simple, underlie data gathering and analysis activities performed by many investor participants in the stock market, including listening to a stock broker's comments, reading investment relevant information and advice in newspapers, looking at industry trends, evaluating "beta" trend data, evaluating financial statements, applying basic financial ratios such as "times earning" and "times sales", return on investment (ROI), return on sales (ROS), return on assets "ROA", industry segment growth rate vs guideline models offered by many such as the Boston Consulting Group, market share measures of various kinds, and on and on. However, Phillips discloses a broad review of methodologies for predicting or forecasting bidding/trading behavior in market environments through various types of modeling, from the forecasting of the economy (Col. 3, l. 16 – Col. 6, l. 7) to the forecasting of the behavior of auction bidders for stocks and stock markets (Col. 11, l. 35 – Col. 12, l. 49, Col. 17, ll. 8-20; Col. 48, ll. 5-27; trading behavior – Col. 16, ll. 42-52), to the demand for specific products (Col. 6, ll. 8-17). Therefore, the ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to modify the teachings of Lupien with the teachings of Phillips in order to provide a computer implemented method and system of automated auction analysis, motivated by a desire to improve techniques for forecasting the values of auction variables (Phillips, Col. 1, ll. 8-9).

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Re. Claims 2 & 11, Lupien discloses a method and system comprising the step of generating a report from the evaluation of the auction (Col. 4, ll. 32-41; Col. 6, ll. 3-4, 7, 15-20, 33-37. Lupien teaches the production of a variety of reports deliverable in a plurality of media, including printing, electronic display, and transmission to the recipient's electronic storage medium.).

2. Claims 3-6, 12-14, 18 and 21 are rejected under 35 U.S.C. 103(a) as being disclosed by Lupien in view of Phillips as applied to claims 1 and 10, and further in view of Shoham (US Patent 6,285,989B1).

Re. Claims 3, 4, 12 & 13, neither Lupien nor Phillips explicitly disclose a method and system comprising the steps of

- selecting the best auction design candidates from the evaluation of the auction; and
- sending these best auction design candidates to an external auction implementation system to implement the auction.
- wherein the best auction design candidates are sent to the external auction implementation system via the Internet.

However, Shoham discloses a process of developing the best auction design candidates from the evaluation of the auction and sending these best auction design candidates to an external auction implementation system to implement the auction (Col. 4, ll. 37-45. Electronic networks including the internet present obviously numerous options for the mechanisms for making use of the best auction designs, including the external implementation options illustrated by Shoham, such as the internet). Therefore, the ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to modify the teachings of Lupien and Phillips with the teachings of Shoham in order to provide a computer implemented method and system of automated auction analysis and the selection of the best auction candidates, motivated by a desire to provide a highly versatile toolkit with which to quickly define and deploy a wide range of online markets and to be able to modify rules on the fly

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without needing to engage in a lengthy software development process and service disruption (Shoham, Col. 4, ll. 29-34).

Re. Claims 5 & 14, Lupien discloses a method and system wherein the step of estimating the unknown elements of market structure of the auction further comprises accessing an external historical auction data repository for the auction characteristics data of the historical auctions for the items similar to the given item based on an user input of the given item to be auctioned (External data collection is disclosed in Col. 3, ll. 7-14).

Neither Lupien nor Phillips explicitly disclose

- selecting, from an external bidding model repository, the bidding model matching the auction characteristics data;
- combining the extracted auction characteristics data and the bidding model to estimate the unknown elements of market structure of the auction.

However, as cited in the rejection of claims 3, 4, 12 & 13, Shoham discloses selecting the bidding model matching the auction characteristics data and combining the extracted auction characteristics data and the bidding model to estimate the unknown elements of market structure of the auction (Col. 4, ll. 41-54). Therefore, the ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to modify the teachings of Lupien and Phillips with the teachings of Shoham in order to provide a computer implemented method and system of automated auction analysis and application of selecting the best auction candidates, motivated by a desire to provide a highly versatile toolkit with which to quickly define and deploy a wide range of online markets and to be able to modify rules on the fly without needing to engage in a lengthy software development process and service disruption (Shoham, Col. 4, ll. 29-34).

Re. Claim 6, Lupien discloses a system wherein the structure extractor further comprises

- a data selection module that accesses an external historical auction data repository for the auction characteristics data of the historical auctions for the

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items similar to the given item based on an user input of the given item to be auctioned (Col. 3, ll. 7-14);

Neither Lupien nor Phillips explicitly disclose

- a bidding model selection module that selects, from an external bidding model repository, the bidding model matching the auction characteristics data;
- a structure estimation module that combines the extracted auction characteristics data and the bidding model to estimate the unknown elements of market structure of the auction

However, Shoham discloses or suggests a process which selects a bidding model selection module and a structure estimation module that combines the extracted auction characteristics data and the bidding model to estimate the unknown elements of market structure of the auction (Col. 4, ll. 41-54. See claims 3, 4, 12 & 13).

The ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to modify the teachings of Lupien and Phillips with the teachings of Shoham in order to provide a computer implemented method and system of automated auction analysis and application of selecting the best auction candidates, motivated by a desire to provide a highly versatile toolkit with which to quickly define and deploy a wide range of online markets and to be able to modify rules on the fly without needing to engage in a lengthy software development process and service disruption (Shoham, Col. 4, ll. 29-34).

Re. Claims 18 & 21, neither Lupien nor Phillips explicitly disclose a system and method wherein the bidding model comprises one of an English auction bidding model, a Dutch auction bidding model, a first-price-sealed bid bidding model, and a Vickrey auction bidding model. However, Shoham discloses an English auction bidding model, a Dutch auction bidding model, a first-price-sealed bid bidding model, and a Vickrey auction bidding model (Col. 1, ll. 38-42; Col. 6, ll. 10-24). Therefore, the ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to modify the teachings of Lupien and Phillips with the teachings of Shoham in order to provide a computer implemented method and system of an automated auction wherein the bidding model comprises one of an English auction bidding model, a

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Dutch auction bidding model, a first-price-sealed bid bidding model, and a Vickrey auction bidding model, motivated by a desire to provide a highly versatile toolkit with which to quickly define and deploy a wide range of online markets and to be able to modify rules on the fly without needing to engage in a lengthy software development process and service disruption (Shoham, Col. 4, ll. 29-34).

3. Claims 8, 9 & 17 are rejected under 35 U.S.C. 103(a) as being disclosed by Lupien in view of Phillips as applied to claims 1 and 10 above, and further in view of Szabo (US Patent 6,868,525 B1).

Re. Claim 8, Lupien and Phillips disclose a system of predicting auction bidder behavior for matching the characteristics of an auction (See claims 1 and 10 above). Lupien and Phillips also disclose a behavior prediction module that predicts the bidding behaviors of bidders in the auction by applying the estimated unknown elements of market structure into the extracted bidding model matching the input of auction characteristics of the auction. Neither Lupien nor Phillips disclose a system using an external bidding model repository and user input regarding the characteristics of an auction. However, Szabo discloses the use of user inputs (Col. 5, ll. 38-41). An ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to further modify the art of Lupien and Phillips with the disclosures of Szabo in order to provide a computer implemented method and system of automated auction analysis which includes user inputs for selecting the best auction candidates by improved means of estimating unknown elements and ranking the evaluation for each of the candidate auction decisions, motivated by a desire to provide users with information which more accurately corresponds to the information sought (Szabo, Col. 3, ll. 42-45).

Re. Claims 9 & 17, Lupien and Phillips disclose the method and system step of employing an evaluation criterion to generate an evaluation of the auction to provide prediction for each of the candidate auction decisions using the evaluation criterion and based on (1) the estimated unknown elements and (2) the predicted bidding behavior of bidders (See claims 1 and 10 above). Phillips discloses the use of rankings of inputs and the ranking of results (Col. 6, ll. 35-37, 56-58). Neither Lupien nor Phillips explicitly

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disclose the use of user inputs. However, Szabo discloses the use of user inputs (Col. 5, ll. 38-41). An ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to further modify the art of Lupien and Phillips with the disclosures of Szabo in order to provide a computer implemented method and system of automated auction analysis and application of selecting the best auction candidates by improved means of estimating unknown elements and ranking the evaluation for each of the candidate auction decisions, motivated by a desire to provide users with information which more accurately corresponds to the information sought (Szabo, Col. 3, ll. 42-45).

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being disclosed by Lupien in view of Phillips as applied to claims 1 and 10 above, and further in view of Shoham and Szabo.

Re. Claim 16, Lupien and Phillips disclose a method and system of predicting bidding behaviors of bidders in an auction predicting the bidding behaviors of bidders in the auction by applying the estimated unknown elements of market structure into a bidding model (see claims 1 and 10). Neither Lupien nor Phillips explicitly disclose the use of bidding models obtained from an external repository and using user input of auction characteristics of the auction. However, Shoham discloses or suggests the use of bidding models obtained from an external repository (See claims 3, 4, 12 and 13 above). Further, Szabo discloses the participation of the user in the system by making inputs (Col. 5, ll. 38-41). Therefore, the ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to modify the teachings of Lupien, Phillips and with the disclosures of Shoham and Szabo in order to provide a computer implemented method and system of automated auction analysis and application of selecting the best auction candidates which also makes use of user inputs in the prediction of bidding behaviors of bidders in the auction process, motivated by a desire to provide users with information which more accurately corresponds to the information sought (Szabo, Col. 3, ll. 42-45).

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5. Claims 7 & 15 are rejected under 35 U.S.C. 103(a) as being disclosed by Lupien, Phillips and Shoham as applied to claims 6 and 14 above, and further in view of Szabo, and Bajari and Hortacsu (Auction Models When Bidders Make Small Mistakes: Consequences for Theory and Estimation. August 15, 2001, hereafter Bajari).

Re. Claims 7 & 15, Lupien discloses a system and method wherein the auction characteristics data are part of the auction mechanism data that also include bid data and a structure estimator, and estimating steps of a variety of data related to an evaluation for participating in an auction process (See Claims 1 & 10). Phillips discloses a method and system of estimating or predicting a value of a target variable based on the prediction of other variables called Interpolation Modeling (Col. 11, l. 34). Shoham discloses a method and system for selecting the most appropriate auction method (See claims 5 & 14).

None of Lupien, Phillips or Shoham disclose applying the bid data to the bidding model to invert the bidding model so as to express unobservable variables in the bidding model in terms of the bid data; and applying a statistical density estimation technique to the expression so as to obtain an estimate of the unknown elements. However, Szabo discloses the use of statistical density estimation techniques in the analysis of online transactions, including commercial transactions such as auctions (Col. 25, l. 6, Col. 26, ll. 6-7; col. 27, ll. 15-18, 55-58; Col. 28, ll. 1-2, 60-62). Further, Bajari discloses the use of model inversion technique analysis of auction data (page 16, Estimation Procedure, lines 3-6, using a technique attributed to Bajari (1997)). Therefore, the ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to modify the art of Lupien, Phillips and Shoham with the teachings of Bajari and Szabo in order to provide a computer implemented method and system of automated auction analysis and application of selecting the best auction candidates by improved means of estimating unknown elements, motivated by a desire to provide improved tools for the analysis and design of auctions in real world application (Bajari, Abstract, lines 1-3).

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6. Claims 19, 20, 22 & 23 are rejected under 35 U.S.C. 103(a) as being disclosed by Lupien, Phillips and Shoham as applied to claims 6 and 14 above, and further in view of Seymour et al. (US Patent 6,871,190 B1, hereafter Seymour).

Re. Claims 19 & 22, neither Lupien nor Phillips explicitly disclose a system and method wherein the auction characteristics data describe at least a reserve price of the given item, an auction format, and a number of bidders. However, Shoham discloses auction formats (Col. 2, l. 63) and a number of bidders (Col. 1, l. 35 – Col. 2, l. 10). Seymour discloses the use of a reserve price in an auction (Col. 9, l. 66; Col. 10, l. 66; Col. 11, l. 55). Therefore, the ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to combine the art of Lupien, Phillips, with the art of Shoham and Seymour in order to provide a computer implemented method and system of automated auction wherein the auction characteristics data describe at least a reserve price of the given item, an auction format, and a number of bidders, motivated by a desire to provide auction solutions ranging from simple to very complex and sophisticated (Shoham, Col. 4, ll. 43-45).

Re. Claims 20 & 23, neither Lupien nor Phillips explicitly disclose a system and method wherein the bidding behavior predictor receives as input plural auction decision candidates that correspond to different types of auctions, and wherein the bidding behavior predictor predicts bidding behaviors for the plural auction decision candidates. Applicant's specification defines his auction decision candidates thusly: "The automatic decision support system 10 then selects the best auction decision candidates (e.g., the best auction format is English, the reserve price is \$100, the entry fee is \$5, and the duration is five days) among the inputted auction decision candidates based on the auction evaluation criterion and the estimated market structure of the auction." (page 9, ll. 5-10). The rejection of claims 18 and 19 (Lupien and Phillips in view of Shoham and Seymour) reveal the prior art for the bidding behavior inputs of auction formats and reserve price, and rejection rationale for the bidding behavior predictor of the plural auction candidates is contained in the rejection of claims 1 and 10. Therefore, the ordinary practitioner of the art at the time of Applicant's invention would have found it obvious to combine the art of Lupien, Phillips,

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with the art of Shoham and Seymour in order to provide a computer implemented method and system of automated auction wherein the bidding behavior predictor receives as input plural auction decision candidates that correspond to different types of auctions, and wherein the bidding behavior predictor predicts bidding behaviors for the plural auction decision candidates, motivated by a desire to provide auction solutions ranging from simple to very complex and sophisticated (Shoham, Col. 4, ll. 43-45).

(10) Response to Argument

I. ARGUMENTS

ARGUMENT A: Re. “Claims 1, 2, 10, And 11 Rejected Under 35 U.S.C. § 103 Over U.S. Patent No. 5,101,353 (Lupien) In View Of U.S. Patent No. 6,792,399 (Phillips).

1. Claims 1 and 2.

The Examiner has failed to establish a *prima facie* case of obviousness with respect to claim 1, for at least the following reasons: (1) no motivation or suggestion existed to combine the reference teachings; and (2) the hypothetical combination of Lupien and Phillips does not teach or suggest all elements of claim 1. See M.P.E.P. § 2143 (8th ed., Rev. 5), at 2100-126.” (p. 8, ll. 21-27; p. 8, l. 21 – p. 9, l. 2).

2. Claims 10 and 11.

Independent claim 10 was also rejected as being obvious over the asserted combination of Lupien and Phillips. As discussed above, no motivation or suggestion existed to combine the teachings of Lupien and Phillips. Therefore, the obvious rejection of claim 10 is defective for at least this reason.

Moreover, for reasons similar to those stated above with respect to claim 1, the hypothetical combination of Lupien and Phillips fails to disclose or suggest the following elements:

- * estimating unknown elements of market structure of the auction based on auction characteristics data extracted from historic auctions for similar items and a *bidding model matching the extracted auction characteristics data*;

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* *predicting bidding behaviors* of bidders in the auction based on the estimated unknown elements of market structure and characteristics of the auction. (p. 15, ll. 5-17; p. 15, ll. 5-19).

ARGUMENT A-1: “Lupien was relied upon as being the primary reference, with Phillips cited by the Examiner as teaching claim features not taught by Lupien. Specifically, the Examiner conceded that Lupien does not disclose a bidding model and predicting bidding behaviors. 8110/2006 Office Action at 3. However, the Examiner relied upon Phillips as disclosing those features.” (p. 9, ll. 1-5).

ARGUMENT A-2: “As explained below, the Examiner's obviousness analysis is defective, as no motivation or suggestion existed to combine the teachings of Lupien and Phillips” (p. 9, ll. 6-7).

ARGUMENT A-3: “and moreover, even if they can be properly combined, the combination of Lupien and Phillips does not teach or suggest all element of claim 1.” (p. 9, ll. 7-9).

ARGUMENT A-4: “The first point of error (p. 9, l. 11) ... “Lupien cited by the Examiner on page 2 of the Office Action, is clearly not based on *any bidding model matching the extracted auction characteristics data*, as recited in claim 1.” (p. 10, ll. 4-5; p. 9, ll. 20-21; p. 9, l. 10 – p. 10, l. 18).

ARGUMENT A-5: “There is absolutely no indication or suggestion in Lupien of a bidding behavior predictor that predicts behaviors of bidders in the auction based on the estimated unknown elements of the market structure and the extracted auction characteristics data. Lupien mentions various factors that are considered in deciding whether to make a trade, and none of these factors involve predicting bidding behaviors of bidders in an auction. Moreover, the Examiner's statement that “since it would be highly improbable bordering on being irrational to perform an auction analysis without making any assumptions and without implicitly if not explicitly using some kind of model

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in the process" made on page 3 of the Office Action has nothing to do with any suggestion of using a bidding behavior predictor that *predicts bidding behaviors of bidders* in the auction based on the estimated unknown elements of market structure and characteristics of the auction. " (p. 11, ll. 9-19; p. 10, l. 19 - p. 11, l. 19).

ARGUMENT A-6: "A human being that is making a prediction "based on a whim, or on an elaborate analysis" (as asserted by the Office Action) has nothing to do with this bidding behavior predictor that is part of the computer-implemented automated decision support system. " (p. 12, ll. 15-17; p. 11, l. 20 – p. 12, l. 17).

ARGUMENT A-7:

(a) "Phillips fails to teach or suggest the predicting of bidding behaviors of bidders." (p. 12,). ... and

(b) "Providing a *contest* in which participants predict stock or commodity prices is entirely different from providing a bidding behavior predictor that *predicts bidding behaviors* of bidders in an auction based on estimated unknown elements of market structure and the characteristics of the auction." (p. 13, ll. 5-8; p. 12, l. 18 – p. 13, l. 11).

ARGUMENT A-8:

(a) "The Examiner's citation of the following Federal Circuit case does not remedy the various points of error in the obviousness rejection: *In re Kahn*, 441 F.3d 977, 78 U.S.P.Q.2d 1329 (Fed. Cir. 2006). *In re Kahn* stands for the unremarkable (BOLDING and underlining added) proposition that a suggestion, teaching, or motivation to combine relevant prior art teachings does not have to be found explicitly in the prior art, since such teaching, motivation, or suggestion "may be implicit (BOLDING and underlining added) from the prior art" *In re Kahn*, 441 F.3d at 987. " (p. 13, ll. 12-17).

(b) "A person of ordinary skill in the art clearly would not have been motivated to incorporate the teachings of Phillips into Lupien. In fact, incorporating the teachings of Phillips into Lupien would render the system of Lupien inoperative for its intended

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purpose. The automated securities trading and portfolio management.” (p. 14, ll. 14-17; ; p. 13, l. 12 - p. 15, l. 2; p. 13, l. 12 - p. 15, l. 4).

The remaining arguments in this section have already been presented in earlier sections of the brief.

ARGUMENT A-9: “Claims 10 and 11.

Independent claim 10 was also rejected as being obvious over the asserted combination of Lupien and Phillips. As discussed above, no motivation or suggestion existed to combine the teachings of Lupien and Phillips. Therefore, the obvious rejection of claim 10 is defective for at least this reason.

Moreover, for reasons similar to those stated above with respect to claim 1, the hypothetical combination

of Lupien and Phillips fails to disclose or suggest the following elements:

- estimating unknown elements of market structure of the auction based on auction characteristics data extracted from historic-,d auctions for similar items and a bidding model matching the extracted auction characteristics data;
- predicting bidding behaviors of bidders in the auction based on the estimated unknown elements of market structure and characteristics of the auction.

In view of the foregoing, reversal of the final rejection of the above claims is respectfully requested.” (p. 15, ll. 5-19).

ARGUMENT B-1: Re. Claim 3.

“With respect to claim 3, ... nowhere within this cited passage .of Shoham, or anywhere else in Shoham, is there any suggestion of selecting the best auction design candidates from the evaluation of the auction, which evaluation is generated by an optimizer based on the estimated unknown elements of market structure and the predicted bidding behavior of bidders.” (p. 16, ll. 10, 17-21; p. 16, ll. 1-24).

ARGUMENT B-2: Re. Claim 5.

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“Moreover, with respect to claim 5, there is no teaching or suggestion of a bidding model repository that stores a *plurality* of bidding models, as recited in claim 5.” (p. 17, ll. 4-6; p. 17, ll. 1-10).

ARGUMENT B-3: Re. Claims 6 and 14.

“There is no teaching or suggestion here of selecting a model from an external bidding model repository that matches the auction characteristics data.” (p. 18, ll. 19-21; p. 17, ll. 11-23).

ARGUMENT C-1: Re. Claims 8 and 16.

“There is no teaching or suggestion here of selecting a model from an external bidding model repository that matches the auction characteristics data.” (p. 18, ll. 21-22; p. 19, ll. 17-19; p. 18, l. 6 – p. 19, l. 1).

Re. Claim 16

“In view of the defective obviousness rejection of base claim 10 over Lupien and Phillips, it is respectfully submitted that the obviousness rejection of claim 16 over Lupien, Phillips, Shoharn, and Szabo is also defective. Moreover, the Examiner erroneously asserts that Szabo discloses selecting a bidding model matching the characteristics of the auction, where the characteristics of the auction is a user input. See arguments above with respect to claim 8.

Reversal of the final rejection of the above claim is respectfully requested.” (p. 19, ll. 12-20).

ARGUMENT C-2: Re. Claims 9 and 17.

“... the Examiner erroneously states that Szabo teaches or suggests an outcome prediction module that receives a user input evaluation criterion and user input auction decision candidates to provide prediction for each of the auction decision candidates using the evaluation criterion. As discussed above with respect to claim 8, Szabo has nothing to do with receiving user input to provide prediction for auction decision

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candidates. Therefore, the obviousness rejection is defective for this additional reason.”
(p. 19, ll. 5-10; p. 19, ll. 2-11).

II. GENERAL RESPONSE:

(1) LAW:

(a) The BPAI issued a decision in July, 2007 based on the US Supreme Court's KSR decision of April, 2007. An excerpt of this BPAI decision is presented for the Board's 'convenience as follows:

BPAI, *Ex parte* CATAN, Appeal 2007-0820, Decided: July 3, 2007

PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”) The Court in *Graham* further noted that evidence of secondary considerations, such as commercial success, long felt but unsolved needs, failure of others, etc., “might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” 383 U.S. at 18, 148 USPQ at 467.

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, 82 USPQ2d at 1395, and discussed circumstances in which
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a patent might be determined to be obvious without an explicit application of the teaching, suggestion, motivation test.

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In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12, 148 USPQ 459, 464 (1966) (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740, 82 USPQ2d at 1396. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

The Supreme Court made clear that “[f]ollowing these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.” *Id.* The Court explained, “[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 1740-41, 82 USPQ2d at 1396. The Court noted that “[t]o facilitate review, this analysis should be made explicit. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). However, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the

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inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 1741, 82 USPQ2d at 1396.

(b) REQUIREMENTS FOR PROPER MOTIVATION TO COMBINE:

Please note the following court opinion: “There is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin* 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971).”

(c) Implicit Findings in Establishing of a *Prima Facie* case of obviousness:

“A suggestion, teaching, or motivation to combine the relevant prior art teachings does not have to be found explicitly in the prior art, as the teaching, motivation, or suggestion may be **implicit** from the prior art as a whole, rather than expressly stated in the references. . . . The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). However, rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *See Lee*, 277 F.3d at 1343-46; *Rouffett*, 149 F.3d at 1355-59. This requirement is as much rooted in the Administrative Procedure Act, which ensures due process and non-arbitrary decisionmaking, as it is in § 103. *See id.* at 1344-45.” *In re Kahn*, Slip Op. 04-1616, page 9 (Fed. Cir. Mar. 22, 2006). (**Bolding** is added).

(d) REQUIREMENTS FOR SUCCESSFUL TRAVERSAL:

(aa) The requirements of 37 CFR 1.111(b) must be complied with by pointing out the specific distinctions believed to render the claims patentable over the references in presenting arguments in support of new claims and amendments.

(bb) MPEP 2112

"[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product.

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Whether the rejection is based on 'inherency' under 35 U.S.C. 102, on 'prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

(cc) MPEP 2113

ONCE A PRODUCT APPEARING TO BE SUBSTANTIALLY IDENTICAL IS FOUND AND A 35 U.S.C. 102/ 103 REJECTION MADE, THE BURDEN SHIFTS TO THE APPLICANT TO SHOW AN UNOBTAINABLE DIFFERENCE

"The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobtainable difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

(2) IN THE INSTANT CASE:

(a) Applicant's Definition of Terms:

APPLICANT'S ADMITTED PRIOR ART

The term "market structure" indicates, in the auction context, environmental factors or conditions that may affect potential bidders in the actual bidding during the auction (or in the auction-related decision making process). In other words, the market structure indicates the factors that may affect a bidder in decisions related to the auction. This term also covers the structure of private information held by bidders of the auction. The private information specifies any information held privately by a bidder or potential bidder (i.e., information not possessed by other bidders or seller). Typically, a bidder's willingness to pay for the auctioned item is known only by the bidder himself/herself". (Specification, Page 9, lines 11-23).

Applicant's admission in his definition of terms supports the examiner's rejection rationale by explicitly giving Applicant's terminology the broad meaning which the

examiner read in the claim limitations AND SUPPORTED BY DICTIONARY DEFINITIONS, as follows.

(b) Barron's Dictionary of Business Terms defines "market" as a "public place where products or services are bought and sold, directly or through intermediaries (p. 410) and "market segment" as "one of two or more subgroups within a target market". (p. 414).

(2) Stock Market as an Auction Market: Barron's Dictionary of Finance, Fifth Edition, 1998, defines an **Auction Market** as "a double auction system or TWO SIDED MARKET. That is because here we have many sellers and many buyers. ... As in any auction, a price is established by competitive bidding between brokers acting as agents for buyers and sellers." (p. 34, bottom to p. 5, top).

(3) Stock Exchanges are Auction Markets

Appellant continues to argue that stock exchanges are not auction markets.

However, the above dictionary definition invalidates the argument that a stock market is not an auction market.

(a) OVERVIEW OF ARGUMENTS A and A-1 through A-9, B-1 through B-3 and C-1 and C-2.

(aa) Regarding Appellant's Argument A and its sub-components, the summary of *In re Kahn* cited by the Supreme Court is a helpful guideline. The examiner has used prior art evidence in combination with extensive rationale regarding what one of ordinary skill at the time of Appellant's invention would have or should known and seen as obvious in bringing together Appellant's claimed invention. Part of the examiner's rationale included judgments about what would have been implicit to the ordinary practitioner from and in the Lupien reference. Appellant's arguments fail to meet the standards of the KSR and the BPAI decision cited above, and the guidelines for motivation traversal by denying the validity of explicit and implicit teachings and by ignoring the examiner's clearly presented rationale regarding why certain aspects not explicitly taught by the cited references would have been known and/or have been found obvious by the ordinary practitioner at the time of Appellant's invention without providing evidence

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combined with credible rationale as required by the traversal standards required by the MPEP as guided by court opinions, instead making a number of unsupported bald arguments.

(bb) Re. Appellant's Primary Supporting Argument: In response to Applicant's argument, the examiner further expanded in the final rejection action and repeated and further expanded here, on the rationale of the last Office Action used for the rejection of claims 1 and 10 without changing the basis of the rejection. The predicting of bidding behaviors would have been implicit in *Lupien* to the ordinary practitioner. Further, the examiner has found that Lupien is explicit regarding his disclosure being applicable to auction markets (Claim 12 found in Col. 17, ll. 62-64). Put most simplistically, anyone who participates in the auction process involved in securities markets is engaging in the predicting of bidding behavior. If one is buying or selling a security (e. g. not selling for reasons of necessity but strictly because one wants to position a securities portfolio for future profit maximization), one is predicting in some manner that the bidders in the future will collectively bid the security up or down (depending whether one is choosing a "long" (buying by the majority, and by almost all amateur investors) or "short" strategy (mostly by professionals), or that they will provide tepid support for the increase in its value, or that the support the security gets will be less than other alternatives satisfactory to the decision maker. The prediction may be based on a whim, or on an elaborate analysis. It is never the less an application of prediction of bidding behavior by other "bidders" on the same security, a commodity in every sense of the word based on some kind of model. Thus both *Lupien* and *Phillips* necessarily suggest the predicting of bidding behaviors. Further, since *Lupien* and *Phillips* are both concerned with the stock market, Applicant has not satisfied the requirements for a valid traversal of the examiner's rationale by failing to provide evidence that a stock market such as the New York Stock Exchange is not an auction market. In any case, such an attempt would run counter to *Barron's Dictionary of Finance* which explicitly states that stock markets are auction markets.

In this instance, the examiner has met the standards reconfirmed by *In re Kahn* stated above. The examiner has pointed in the rejection rationale for each claim and here in

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the Reply to Arguments section, to a combination of explicit, implicit, suggested and obvious reasons, to the knowledge of the ordinary practitioner in consideration of the problems to be solved, supported by articulated reasoning with some rational underpinning to support the legal conclusion of obviousness in making the rejections of independent claims 1 and 10 under the 35 USC obviousness statute.

(b) NO MOTIVATION TO COMBINE – A, A-2, A8 & A-9:

Appellant argues that there is no motivation to combine in several places (basic Arguments A, and subsidiary arguments A-2, A8-(b) & A-9).

First, the motivation to combine has been ruled to be easily established as per *In re McLaughlin* (above).

Second, the examiner cited proper motivations to combine in rejecting the independent claims based on obviousness (For claims 1 & 10: “motivated by a desire to improve techniques for forecasting the values of auction variables (Phillips, Col. 1, ll. 8-9)”).

(c) THE COMBINATION OF LUPIEN AND PHILLIPS DOES NOT TEACH OR SUGGEST ALL THE ELEMENTS – A-2:

This argument basically ignores by labeling as “unremarkable” the key elements cited by the Supreme Court from *In re Kahn*. The examiner has considered evidence as well as two judgmental factors, namely what one of ordinary skill at the time of the invention would have or should have known, and what such a practitioner would have seen as obvious. In this instance, the examiner believes that his rationale repeated in the above rejections and expanded upon in this Response to Argument, combined with the prior art references applied in the various rejections, meets the requirements of a *prima facie* case of obviousness.

(4) SUMMARY of the Examiner’s Case of Pima Facie Obviousness

In the instant case, regarding Appellant’s Argument A and its sub-components, the summary of *In re Kahn* cited by the Supreme Court and the guidelines from MPEP 2112 and 2113 are helpful guidelines.

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(a) The examiner has used prior art evidence in combination with extensive rationale regarding what one of ordinary skill at the time of Appellant's invention would have or should known and seen as obvious in bringing together Appellant's claimed invention. Part of the examiner's rationale included judgments about what would have been implicit to the ordinary practitioner from and in the Lupien reference. Appellant's arguments fail to meet the standards of the KSR and BPAI decisions cited above by denying the validity of implicit teachings without providing evidence combined with credible rationale, instead making a number of unsupported bald arguments which fail the traversal test.

(b) Appellant has not met the tests provided by MPEP 2112 and 2113 in traversing the examiner's proper cases of prima facie obviousness in rejecting claims 1-23.

(c) The examiner provides further detailed comments regarding each of Appellant's arguments, as follows:

ARGUMENT A: Re. "Claims 1, 2, 10, And 11 Rejected Under 35 U.S.C. § 103 Over U.S. Patent No. 5,101,353 (Lupien) In View Of U.S. Patent No. 6,792,399 (Phillips).

Re. Claims 1, 2, 10 and 11.

(1) no motivation or suggestion existed to combine the reference teachings incl.

ARGUMENT A-2: "As explained below, the Examiner's obviousness analysis is defective, as no motivation or suggestion existed to combine the teachings of Lupien and Phillips" (p. 9, ll. 6-7).

RESPONSE:

First, the motivation to combine has been ruled to be easily established as per *In re McLaughlin* (above).

Second, the examiner cited proper motivations to combine in rejecting the independent claims based on obviousness (For claims 1 & 10: "motivated by a desire to improve techniques for forecasting the values of auction variables (Phillips, Col. 1, ll. 8-9)").

(2) the hypothetical combination of Lupien and Phillips does not teach or suggest all elements of claim 1.

ARGUMENT A-3: “and moreover, even if they can be properly combined, the combination of Lupien and Phillips does not teach or suggest all element of claim 1.” (p. 9, ll. 7-9).

RESPONSE:

(a) This argument basically ignores by labeling as “unremarkable” the key elements cited by the Supreme Court from *In re Kahn*. The examiner has considered evidence as well as two judgmental factors, namely what one of ordinary skill at the time of the invention would have or should have known, and what such a practitioner would have seen as obvious. This aspect of the examiner's rejection is known as the examiner's rationale in the establishment of a proper *prima facie* case of obviousness. In this instance, the examiner believes that his rationale repeated in the above rejections and expanded upon in this Response to Argument, combined with the prior art references applied in the various rejections, meets the requirements of a *prima facie* case of obviousness.

(b) In the argument regarding claims 10 and 11, it should be pointed out that

(i) Applicant primarily argues

* “However, estimating a security's price variability, cash flows, industry and sector exposures, earnings/price, and debt/equity ratios, and normal prices of Lupien cited by the examiner on page 2 of the Office Action, is clearly not based on *any bidding model matching the extracted auction characteristics data*, as recited in claim 1.” (p. 10, ll. 2-5) (italicizing by applicant). The italicizing suggests that Applicant is primarily arguing for the patentable uniqueness of the italicized phrase.

* “There is absolutely no indication or suggestion in Lupien of a bidding behavior predictor that predicts behaviors of bidders in the .auction based on the estimated unknown elements of the market structure and the extracted auction characteristics data. Lupien mentions various factors that are considered in deciding whether to make a trade, and none of these factors involve predicting bidding behaviors of bidders in an auction.” (p. 11, ll. 9-13).

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(ii) Applicant claims no particular bidding models. Further, no specific bidding behavior models bidding behavior predictors are found in the disclosure.

(iii) Applicant fails to demonstrate why the examiner's rationale in using the teachings of Lupien and Phillips regarding the auction environment of stock markets, combined with what the examiner has attributed to an ordinary practitioner's knowledge and view of what would have been obvious, fails to see the independent claims as obvious to an ordinary practitioner of the art at the time of Applicant's invention. Applicant merely makes bald assertions dismissing the examiner's prima facie case without addressing the auction process involved in a stock market and the role of the various parties in such an auction market (sellers, buyers, the auction house/exchange, administrators of the auction, fees, etc. which are similar to what Applicant admits are well known parts of auctions (specification, p. 1, l. 11 – p. 12, l. 3) without providing evidence and rationale to demonstrate why the examiner's rationale is faulty.

ARGUMENT A-1: “Lupien was relied upon as being the primary reference, with Phillips cited by the Examiner as teaching claim features not taught by Lupien. Specifically, the Examiner conceded that Lupien does not disclose a bidding model and predicting bidding behaviors. 8110/2006 Office Action at 3. However, the Examiner relied upon Phillips as disclosing those features.” (p. 9, ll. 1-5).

RESPONSE:

(1) The rejection of independent claims 1 and 10 was not only based on the disclosures by Lupien and Philips, but also on the basis of a significant amount of the examiner's rationale involving what the ordinary practitioner would have known about the art and what such a practitioner would have seen as obvious in combining such knowledge with the specific disclosures in the two prior art references.

(2) The examiner has stated, as repeated in the above rejection, that Lupien's use of a bidding model is implicit. However, upon closer review, the examiner finds that Lupien does indeed disclose modeling for bidding in col. 9, ll. 34-68. Here, Lupien describes the kind of data gathered to prepare for making a trading decision (ll. 43-48), and some

components of the model being used, such as standard deviation or variance of its price fluctuations (ll. 55-61), the establishment of a "normal price" (ll. 61-68).

(3) The examiner has further found that Lupien explicitly discloses an "auction market" in claim 12 (Col. 17, l. 64 "... for providing added liquidity to continuous auction markets for investment securities ... ").

ARGUMENT A-4: "The first point of error (p. 9, l. 11) ... "Lupien cited by the Examiner on page 2 of the Office Action, is clearly not based on *any bidding model matching the extracted auction characteristics data*, as recited in claim 1." (p. 10, ll. 4-5; p. 9, ll. 20-21; p. 9, l. 10 – p. 10, l. 18).

RESPONSE:

The rejection rationale of claims 1 and 10 above explains a "*bidding model matching the extracted auction characteristics data*" works in a stock market, as follows:

- "estimating unknown elements of market structure of the auction based on auction characteristics data extracted from historical auctions for similar items and a bidding model matching the extracted auction characteristics data (Abstract-II. 16-18; Col. 3, ll. 19-22; Col. 9, ll. 61-67. Lupien reads on estimating unknown elements of market structure, in this case securities market structure for specific securities and groups of securities based on the auction characteristics data extracted from the historical stock market data. As in any auction, a price is established in a stock market by competitive bidding between brokers acting as agents for buyers and sellers. Trading rules maintain order in the auction of a particular stock. Analysis using an almost infinite number of models of the trader's or investor's choosing is enhanced, at least in part, by historical trading data from a given exchange. The historical stock market data is based on historical stock market auction data of the same and similar securities. The underlying bidding model used in the analysis is implicit in Lupien since there would be no basis for making any assumptions without a model. This implicit model produces the estimates of market structure based on the assumptions

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made in applying the model. It would be highly improbable bordering on irrationality to perform an auction analysis without making any assumptions".

- Further, as has been noted above, the examiner has found that Lupien explicitly teaches his method in an auction environment (Lupien, Claim 12).

ARGUMENT A-5: "There is absolutely no indication or suggestion in Lupien of a bidding behavior predictor that predicts behaviors of bidders in the auction based on the estimated unknown elements of the market structure and the extracted auction characteristics data. Lupien mentions various factors that are considered in deciding whether to make a trade, and none of these factors involve predicting bidding behaviors of bidders in an auction. Moreover, the Examiner's statement that "since it would be highly improbable bordering on being irrational to perform an auction analysis without making any assumptions and without implicitly if not explicitly using some kind of model in the process" made on page 3 of the Office Action has nothing to do with any suggestion of using a bidding behavior predictor that *predicts bidding behaviors of bidders* in the auction based on the estimated unknown elements of market structure and characteristics of the auction. " (p. 11, ll. 9-19; p. 10, l. 19 - p. 11, l. 19).

RESPONSE:

The rejection rationale of claims 1 and 10 above explains a "bidding behavior predictor that predicts behaviors of bidders in the auction based on the estimated unknown elements of the market structure and the extracted auction characteristics data" works in a stock market, as follows:

- "Lupien obviously reads on the prediction of future bidding behavior of bidders in the auction using the above estimated unknown elements of market structure and characteristics of the auction, since prediction of bidding behavior in a market environment requires the use of assumptions and estimates of unknown variables of a future event such as an auction)".
- Further, buying a stock long or selling a stock short necessarily involves predicting of future bidding behavior by participants in the stock/equities market

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at some time in the future, such as minutes to hours to days or weeks, months or years from the moment of the investor's decision.

- ❖ Applicant fails to provide evidence and rationale to reasonably put in question the validity of the examiner's combination of evidence and rationale regarding "bidding behavior predictor" concept being in use by participants in stock market transactions. Applicant merely makes bald assertions, such as "Moreover, the Examiner's statement that "since it would be highly improbable bordering on being irrational to perform an auction analysis without making any assumptions and without implicitly if not explicitly using some kind of model in the process" made on page 3 of the Office Action has nothing to do with any suggestion of using a bidding behavior predictor that *predicts bidding behaviors of bidders* in the auction based on the estimated unknown elements of market structure and characteristics of the auction." (p. 11, ll. 14-19). Such bald assertions fail the traversal requirements stated in the MPEP.

ARGUMENT A-6: "A human being that is making a prediction "based on a whim, or on an elaborate analysis" (as asserted by the Office Action) has nothing to do with this bidding behavior predictor that is part of the computer-implemented automated decision support system. " (p. 12, ll. 15-17; p. 11, l. 20 – p. 12, l. 17).

RESPONSE:

This argument is also constituted of mere assertions which fail to meet the required standard of traversal. The above quoted statement is not supported by evidence and rationale to put in reasonable question the examiner's prima facie case of obviousness. For example, Applicant's support is made up of the unsupported assertion "The statement that "anyone who participates in the auction process" is engaging in the predicting of bidding behavior has no relevance to the claimed subject matter, which recites a bidding behavior predictor that predicts bidding behaviors of bidders in the auction based on estimated unknown elements of market structure and characteristics of the auction. Clearly, a human using the Lupien system would not be predicting bidding behaviors Of bidders in the auction based on the estimated unknown elements

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of market structure and characteristics of the auction. Moreover, claim I recites a computer-implemented automated decision support system, in which the bidding behavior predictor is part of this computer-implemented automated decision support system. A human being that is making a prediction "based on a whim, or on an elaborate analysis" (as asserted by the Office Action) has nothing to do with this bidding behavior predictor that is part of the computer-implemented automated decision support system.

" (p. 12, ll. 7-15).

ARGUMENT A-7:

(a) "Phillips fails to teach or suggest the predicting of bidding behaviors of bidders." (p. 12,). ... and

(b) "Providing a *contest* in which participants predict stock or commodity prices is entirely different from providing a bidding behavior predictor that *predicts bidding behaviors* of bidders in an auction based on estimated unknown elements of market structure and the characteristics of the auction." (p. 13, ll. 5-8; p. 12, l. 18 – p. 13, l. 11).

RESPONSE:

(a) This argument is responded to in the Response A (2) and A-5 above.

(b) Appellant's argument has no bearing on the teaching eh examiner used from Phillips and does not meet the required traversal standard.

ARGUMENT A-8:

(a) "The Examiner's citation of the following Federal Circuit case does not remedy the various points of error in the obviousness rejection: *In re Kahn*, 441 F.3d 977, 78 U.S.P.Q.2d 1329 (Fed. Cir. 2006). *In re Kahn* stands for the unremarkable (BOLDING and underlining added) proposition that a suggestion, teaching, or motivation to combine relevant prior art teachings does not have to be found explicitly in the prior art, since such teaching, motivation, or suggestion "may be implicit (BOLDING and underlining added) from the prior art" *In re Kahn*, 441 F.3d at 987. " (p. 13, ll. 12-17).

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(b) “A person of ordinary skill in the art clearly would not have been motivated to incorporate the teachings of Phillips into Lupien. In fact, incorporating the teachings of Phillips into Lupien would render the system of Lupien inoperative for its intended purpose. The automated securities trading and portfolio management.” (p. 14, ll. 14-17; ; p. 13, l. 12 - p. 15, l. 2; p. 13, l. 12 - p. 15, l. 4).

The remaining arguments in this section have already been presented in earlier sections of the brief.

RESPONSE:

(a) The examiner’s intent in citing *In re Kahn* was to remind Appellant of relevant case law for his convenience. *In re Kahn* has been shown to be important in obviousness analysis by the US Supreme Court in April 2007 in the case known as KSR. Further excerpts of KSR follow below. Not only is the *In re Kahn* decision relevant, it is remarkable in that the US Supreme Court found that it well stated the guidelines for obviousness analysis. These guidelines tell the examiner that teachings in a reference which would be implicit to an ordinary practitioner are relevant in demonstrating through appropriate rationale that an ordinary practitioner at the time of Appellant’s invention would have been obvious to the ordinary practitioner. *In re Kahn* also tells us that the examiner should consider what the ordinary practitioner would have known and what he would have found obvious in combination with the teachings in one or more references. The examiner did cite a motivation to combine the references and this motivation is so cited in the above rejections. For Appellant’s convenience, this motivation is “motivated by a desire to improve techniques for forecasting the values of auction variables (Phillips, Col. 1, ll. 8-9).”. In view of *In re McLaughlin* The examiner believes that the examiner has complied with this court guideline in making the obviousness rejections under 35 USC 103(a).

(b) Appellant continues to not meet the required traversal standards. Once again Appellant has failed to demonstrate how the examiner’s combination of evidence and rationale is faulty (see the response above for argument A (1) - motivation.

ARGUMENT A-9: “Claims 10 and 11.

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Independent claim 10 was also rejected as being obvious over the asserted combination of Lupien and Phillips. As discussed above, no motivation or suggestion existed to combine the teachings of Lupien and Phillips. Therefore, the obvious rejection of claim 10 is defective for at least this reason.

Moreover, for reasons similar to those stated above with respect to claim 1, the hypothetical combination

of Lupien and Phillips fails to disclose or suggest the following elements:

- estimating unknown elements of market structure of the auction based on auction characteristics data extracted from historic-,d auctions for similar items and a bidding model matching the extracted auction characteristics data;
- predicting bidding behaviors of bidders in the auction based on the estimated unknown elements of market structure and characteristics of the auction.

In view of the foregoing, reversal of the final rejection of the above claims is respectfully requested. ” (p. 15, ll. 5-19).

RESPONSE:

Please see the response to argument A above.

The examiner's intent in citing *In re Kahn* was to remind Appellant of relevant case law for his convenience. *In re Kahn* has been shown to be important in obviousness analysis by the US Supreme Court in April 2007 in the case known as KSR. Further excerpts of KSR follow below. Not only is the *In re Kahn* decision relevant, it is remarkable in that the US Supreme Court found that it well stated the guidelines for obviousness analysis. These guidelines tell the examiner that teachings in a reference which would be implicit to an ordinary practitioner are relevant in demonstrating through appropriate rationale that an ordinary practitioner at the time of Appellant's invention would have been obvious to the ordinary practitioner. *In re Kahn* also tells us that the examiner should consider what the ordinary practitioner would have known and what he would have found obvious in combination with the teachings in one or more references. The examiner did cite a motivation to combine the references and this motivation is so cited in the above rejections. For Appellant's convenience, this motivation is "motivated by a desire to improve techniques for forecasting the values of auction variables

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(Phillips, Col. 1, ll. 8-9).”. In view of *In re McLaughlin*, the examiner believes that the examiner has complied with this court guideline in making the obviousness rejections under 35 USC 103(a).

ARGUMENT B-1: Re. Claims 3, 4, 12 and 13: “With respect to claim 3, ... nowhere within this cited passage .of Shoham, or anywhere else in Shoham, is there any suggestion of selecting the best auction design candidates from the evaluation of the auction, which evaluation is generated by an optimizer based on the estimated unknown elements of market structure and the predicted bidding behavior of bidders.” (p. 16, ll. 10, 17-21; p. 16, ll. 1-24).

RESPONSE: Appellant again ignores the examiner’s *prima facie* case of obviousness by merely making bold assertions without demonstrating how and why the examiner’s *prima facie* case of obviousness presented in the rejections of these claims is faulty and unreasonable. Appellant presents no underlying evidence and rationale to support the bold assertion.

ARGUMENT B-2: Re. Claim 5.

“Moreover, with respect to claim 5, there is no teaching or suggestion of a bidding model repository that stores a *plurality* of bidding models, as recited in claim 5.” (p. 17, ll. 4-6; p. 17, ll. 1-10).

RESPONSE: Appellant ignores the obviousness rationale presented by the examiner in the rejection of claims 5 and 14, again failing to meet the requirements of traversal. This rationale begins by establishing that the primary reference discloses an auction data repository and that Shoham discloses selecting the bidding model matching the auction characteristics data with a bidding model. It is implicit that the bidding model is stored with a plurality of bidding models.

ARGUMENT B-3: Re. Claims 6 and 14.

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“There is no teaching or suggestion here of selecting a model from an external bidding model repository that matches the auction characteristics data.” (p. 18, ll. 19-21; p. 17, ll. 11-23).

RESPONSE: Appellant again ignores the obviousness rationale presented by the examiner in the rejection of claims 6 and 14, again failing to meet the requirements of traversal. Appellant merely makes bold assertions that the examiner has not presented a teaching or suggestion relative to the claim.

ARGUMENT C-1: Re. Claims 8 and 16.

Re. Claim 8 - “There is no teaching or suggestion here of selecting a model from an external bidding model repository that matches the auction characteristics data.” (p. 18, ll. 21-22; p. 19, ll. 17-19; p. 18, l. 6 – p. 19, l. 1).

Re. Claim 16 - “In view of the defective obviousness rejection of base claim 10 over Lupien and Phillips, it is respectfully submitted that the obviousness rejection of claim 16 over Lupien, Phillips, Shoharn, and Szabo is also defective. Moreover, the Examiner erroneously asserts that Szabo discloses selecting a bidding model matching the characteristics of the auction, where the characteristics of the auction is a user input. See arguments above with respect to claim 8.

Reversal of the final rejection of the above claim is respectfully requested.” (p. 19, ll. 12-20).

RESPONSE: Appellant again ignores the obviousness rationale presented by the examiner in the rejection of claims 8 and 16, again failing to meet the requirements of traversal. Appellant merely makes bold assertions that the examiner has not presented a teaching or suggestion relative to the claim.

Szabo has been explicitly used by the examiner as a prior art reference for making use of user input in the selection of data in a database as part of a prima facie case of obviousness. Appellant fails to properly traverse the examiner's case of obviousness.

ARGUMENT C-2: Re. Claims 9 and 17.

“... the Examiner erroneously states that Szabo teaches or suggests an outcome

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prediction module that receives a user input evaluation criterion and user input auction decision candidates to provide prediction for each of the auction decision candidates using the evaluation criterion. As discussed above with respect to claim 8, Szabo has nothing to do with receiving user input to provide prediction for auction decision candidates. Therefore, the obviousness rejection is defective for this additional reason.” (p. 19, ll. 5-10; p. 19, ll. 2-11).

RESPONSE: Appellant again ignores the obviousness rationale presented by the examiner in the rejection of claims 9 and 17, again failing to meet the requirements of traversal. Appellant merely makes bold assertions that the examiner has not presented a teaching or suggestion relative to the claim.

Szabo has been explicitly used by the examiner as a prior art reference for making use of user input in the selection of data in a database as part of a prima facie case of obviousness. Appellant fails to properly traverse the examiner's case of obviousness.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Siegfried E. Chencinski

Examiner, Art Unit 3691

/Alexander Kalinowski/

Supervisory Patent Examiner, Art Unit 3691

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